Internet Usage Analysis Project

This project is about the Data of internet usage [in kb] by graduate student at an indian university. We will clean it and analyze it while answering these qustions:

- What is the most frequent internet activity time of the day ?
- How often the ip changes ?
- How often the device changed.
- What is the average usage per hour , per day and per month ?

1 - Importing and Cleaning the Data

We start by importing the Data, Cleaning it and making it ready for Analysis

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

internet_usage = pd.read_csv('/kaggle/input/internet-usage-analysis/internet_session.csv', parse_dates=['start_time'])
```

```
internet_usage
```

	name	start_time	usage_time	IP	MAC	upload	download
0	user1	2022-05-10 02:59:32	00:00:36:28	10.55.14.222	48:E7:DA:58:22:E9	15861.76	333168.64
1	user1	2022-05-10 18:53:27	00:01:49:56	10.55.2.253	48:E7:DA:58:22:E9	16957.44	212152.32
2	user1	2022-05-10 21:20:44	00:01:35:00	10.55.2.253	48:E7:DA:58:22:E9	14080.0	195153.92
3	user1	2022-05-11 00:37:42	00:00:26:00	10.55.2.253	48:E7:DA:58:22:E9	5242.88	40806.4
4	user1	2022-05-11 02:59:38	00:00:11:52	10.55.2.253	48:E7:DA:58:22:E9	22067.2	10772.48
...	...	...	...	...	...	...	...
4707	user9	2022-11-04 01:11:34	00:06:54:32	10.55.4.189	DA:2F:97:0E:B7:D0	107960.32	2390753.28
4708	user9	2022-11-04 10:26:09	00:00:23:49	10.55.4.59	DA:2F:97:0E:B7:D0	11407.36	209674.24

```
internet_usage.shape
```

```
(4712, 9)
```

This Dataset contains 9 columns and 4712 rows

```
internet_usage.columns
```

```
Index(['name', 'start_time', 'usage_time', 'IP', 'MAC', 'upload', 'download',
       'total_transfer', 'seession_break_reason'],
      dtype='object')
```

These are the names of the columns, let's make them easier to work with

```
internet_usage.columns = internet_usage.columns.str.lower()
internet_usage.columns
```

```
Index(['name', 'start_time', 'usage_time', 'ip', 'mac', 'upload', 'download',
       'total_transfer', 'seession_break_reason'],
```

```
            dtype='object')
```

Now let's check the data type of the columns

```
internet_usage.dtypes
```

```
name                            object
start_time                datetime64[ns]
usage_time                      object
ip                              object
mac                             object
upload                          object
download                        object
total_transfer                 float64
seession_break_reason           object
dtype: object
```

A lot of columns are in the wrong data type, we need to fix that

first we will check the null values and drop them if necessary

```
internet_usage.isna().sum()
```

```
name                    0
start_time              0
usage_time              0
ip                      0
mac                     0
upload                  0
download                0
total_transfer          0
seession_break_reason   9
dtype: int64
```

the column "seession_break_reason" has some null values but since it's a very low amount, we can safely delete them, it won't affect our analysis

```
internet_usage = internet_usage.dropna().copy()
internet_usage.isna().sum()
```

```
name                    0
start_time              0
usage_time              0
ip                      0
mac                     0
upload                  0
download                0
total_transfer          0
seession_break_reason   0
dtype: int64
```

Now let's check if the dataset contains duplicates and drop them if that's the case

```
internet_usage.duplicated().sum()
```

```
0
```

No duplicates, so now we can start converting the right columns from strings to numeric

```
internet_usage['usage_time'] = internet_usage['usage_time'].str.replace('00:', '', 1)
internet_usage['usage_time'] = pd.to_datetime(internet_usage['usage_time'])

internet_usage['upload'] = internet_usage['upload'].str.extract('(\d+)', expand=False)
internet_usage.upload = internet_usage.upload.astype(float)

internet_usage['download'] = internet_usage['download'].str.extract('(\d+)', expand=False)
internet_usage.download = internet_usage.download.astype(float)

device = []
basename = 'device'
mac = internet_usage['mac'][0]
```

```
device_number = 1
for i in internet_usage['mac']:
    if i == mac:
        device.append(basename + str(device_number))
    else:
        device_number += 1
        device.append(basename + str(device_number))
        mac = i
internet_usage['device'] = device

internet_usage.dtypes
```

```
name                          object
start_time              datetime64[ns]
usage_time              datetime64[ns]
ip                             object
mac                            object
upload                        float64
download                      float64
total_transfer                float64
seession_break_reason          object
device                         object
dtype: object
```

Now the columns are in the right data types, we can proceed to the exploratory data analysis

2 - Exploratory Data Analysis

We will start with calculating some descriptive statistics

```
internet_usage.describe(include='all', datetime_is_numeric=True)
```

	name	start_time	usage_time	ip	mac	up
count	4703	4703	4703	4703	4703	4.703000
unique	9	NaN	NaN	1299	33	
top	user4	NaN	NaN	10.55.0.89	48:E7:DA:58:22:E9	
freq	725	NaN	NaN	80	1235	
mean	NaN	2022-08-08 09:35:44.875185920	2023-01-31 02:10:05.038486016	NaN	NaN	3.378702
min	NaN	2022-05-09 22:52:41	2023-01-31 00:00:01	NaN	NaN	2.000000
25%	NaN	2022-06-14 18:33:06.500000	2023-01-31 00:31:42	NaN	NaN	6.082000
50%	NaN	2022-08-19 13:56:28	2023-01-31 01:19:40	NaN	NaN	1.531900
75%	NaN	2022-09-24 22:30:58.500000	2023-01-31 02:49:02	NaN	NaN	3.399600
		2022-11-05	2023-01-31			

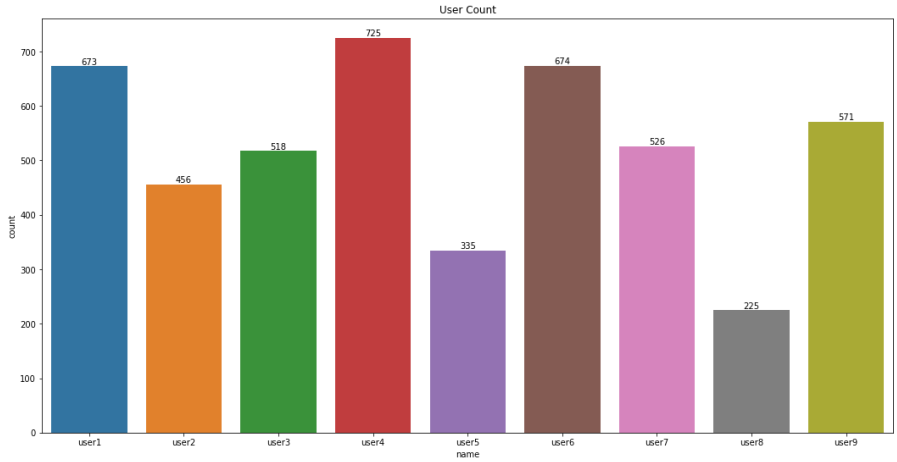
We have 9 users, let's check their count

```
internet_usage.name.value_counts()
```

```
user4    725
user6    674
user1    673
user9    571
user7    526
user3    518
user2    456
user5    335
user8    225
Name: name, dtype: int64
```

```
plt.figure(figsize=(18, 9))
ax = sns.countplot(x='name', data=internet_usage)
```

```
ax.bar_label(ax.containers[0])
plt.title("User Count")
plt.show()
plt.clf()
```




```
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```

User4 is represented the most with a count of 725, while user8 was the least represented with a count of 225

```
print('The earliest start time is:')
print(internet_usage.start_time.min())
print('The latest start time is:')
print(internet_usage.start_time.max())
```

```
The earliest start time is:
2022-05-09 22:52:41
The latest start time is:
2022-11-05 18:41:14
```

```
print('The minimum usage time is:')
print(internet_usage.usage_time.min())
print('The maximum usage time is:')
print(internet_usage.usage_time.max())
print('The average usage time is:')
print(internet_usage.usage_time.mean())
```

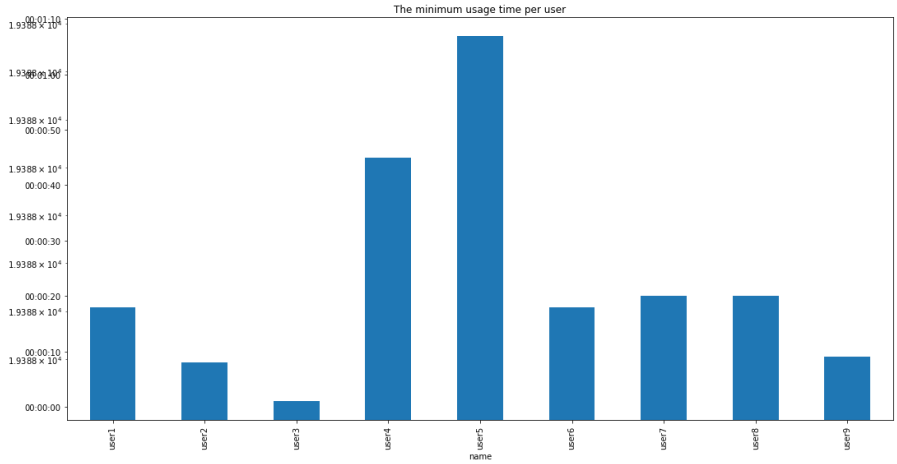
```
The minimum usage time is:
2023-01-31 00:00:01
The maximum usage time is:
2023-01-31 22:00:07
The average usage time is:
2023-01-31 02:10:05.038486016
```

```
print('The minimum usage time per user:')
usage_time_minimum = internet_usage.groupby('name').usage_time.min()
usage_time_minimum
```

```
The minimum usage time per user:
name
user1   2023-01-31 00:00:18
user2   2023-01-31 00:00:08
user3   2023-01-31 00:00:01
user4   2023-01-31 00:00:45
user5   2023-01-31 00:01:07
user6   2023-01-31 00:00:18
user7   2023-01-31 00:00:20
user8   2023-01-31 00:00:20
```

```
user9   2023-01-31 00:00:09
Name: usage_time, dtype: datetime64[ns]
```

```
plt.figure(figsize=(18, 9))
usage_time_minimum.plot(kind='bar', logy=True)
plt.title("The minimum usage time per user")
plt.show()
plt.clf()
```




```
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```
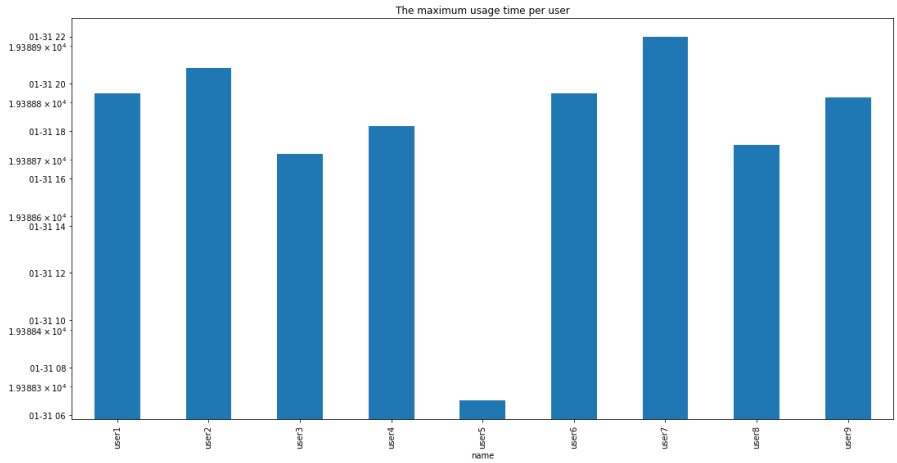

User 3 has the leat amount of minimum usage with 1 second, while user 5 has the greatest with a minute and 7 seconds

```
print('The maximum usage time per user:')
usage_time_maximum = internet_usage.groupby('name').usage_time.max()
usage_time_maximum
```

```
The maximum usage time per user:
name
user1   2023-01-31 19:35:11
user2   2023-01-31 20:39:52
user3   2023-01-31 17:01:28
user4   2023-01-31 18:11:43
user5   2023-01-31 06:36:11
user6   2023-01-31 19:35:11
user7   2023-01-31 22:00:07
user8   2023-01-31 17:24:26
user9   2023-01-31 19:26:09
Name: usage_time, dtype: datetime64[ns]
```

```
plt.figure(figsize=(18, 9))
usage_time_maximum.plot(kind='bar', logy=True)
plt.title("The maximum usage time per user")
plt.show()
plt.clf()
```




```
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```
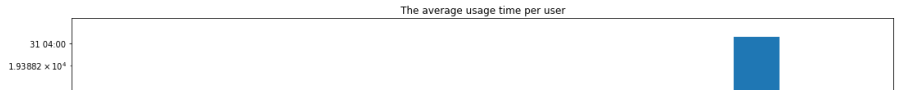

user 7 has the greatest maximum time usage with 22 hours and 7 seconds, while user 5 has the least amount with only 6 hours 36 minutes and 11 seconds

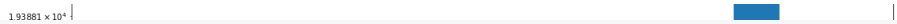
```
print('The average usage time per user:')
usage_time_average = internet_usage.groupby('name').usage_time.mean()
usage_time_average
```

```
The average usage time per user:
name
user1   2023-01-31 01:42:47.665676032
user2   2023-01-31 01:42:53.866227968
user3   2023-01-31 02:19:42.019305216
user4   2023-01-31 02:38:01.766896640
user5   2023-01-31 01:20:11.701492736
user6   2023-01-31 01:42:49.998516224
user7   2023-01-31 02:17:45.053231872
user8   2023-01-31 04:03:14.555555584
user9   2023-01-31 02:29:32.180385280
Name: usage_time, dtype: datetime64[ns]
```

```
plt.figure(figsize=(18, 9))
usage_time_average.plot(kind='bar', logy=True)
plt.title("The average usage time per user")
plt.show()
plt.clf()
```



We can see that on average, User 8 has the most usage with 4 hours 3 minutes and 14 seconds, while User 5 has the least amount of average time usage with one hour 20 minutes and 11 seconds




```
internet_usage.ip.value_counts()
```

```
10.55.0.89      80
10.55.14.148    64
10.55.15.221    55
10.55.1.50      48
10.55.10.46     44
                ..
10.55.15.44      1
10.55.15.237     1
10.55.14.166     1
10.55.3.200      1
10.55.4.159      1
Name: ip, Length: 1299, dtype: int64
```

The most used IP Adress is 10:55:0:89

```
internet_usage.device.value_counts()
```

```
device1206    194
device835     137
device11      137
device1212    132
device312     113
              ...
device582       1
device583       1
device584       1
device585       1
device613       1
Name: device, Length: 1224, dtype: int64
```

The most used device is device1206 with 194 times

```
print('The minimum upload is: ' + str(internet_usage.upload.min()) + 'Kb')
print('The maximum upload is: ' + str(internet_usage.upload.max()) + 'Kb')
print('The average upload is: ' + str(round(internet_usage.upload.mean(), 2)) + 'Kb')
```

```
The minimum upload is: 2.0Kb
The maximum upload is: 2841640.0Kb
The average upload is: 33787.02Kb
```

Now let's check the minimum, maximum and average upload per user

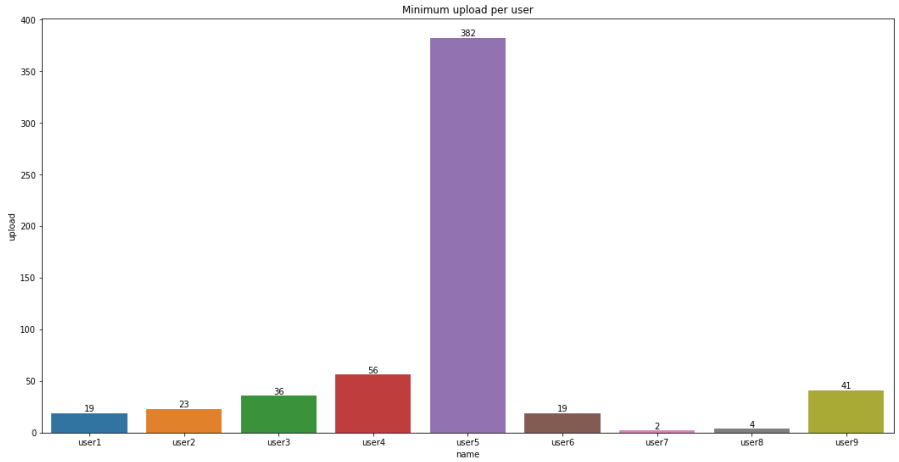
We will start with the minimum upload per user

```
print('The minimum upload per user:')
internet_usage.groupby('name').upload.min()
```

```
The minimum upload per user:
name
user1     19.0
user2     23.0
user3     36.0
user4     56.0
user5    382.0
user6     19.0
user7      2.0
user8      4.0
user9     41.0
Name: upload, dtype: float64
```

```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='upload' , data=internet_usage, ci=None, estimator=np.min)
ax.bar_label(ax.containers[0])
plt.title("Minimum upload per user")
```

```
plt.show()
plt.clf()
```




```
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```

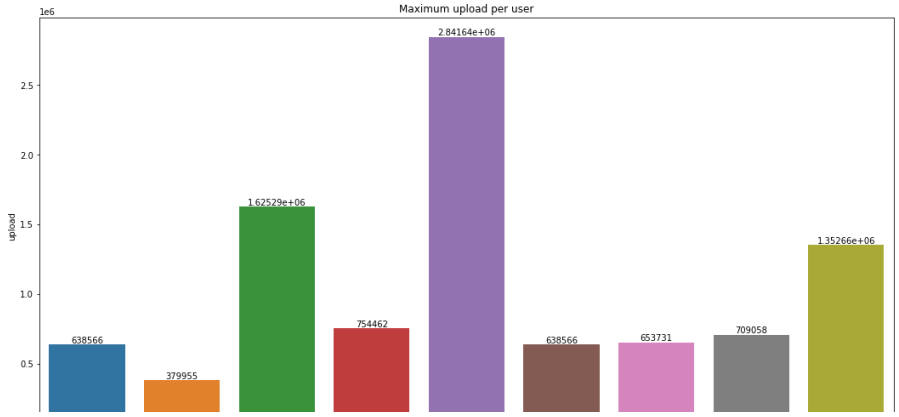
user 2 has the lowest minimum upload with 2Kb while user5 has the highest minimum upload with 382Kb

Now we check the maximum upload per user

```
print('The maximum upload per user:')
internet_usage.groupby('name').upload.max()
```

```
The maximum upload per user:
name
user1     638566.0
user2     379955.0
user3    1625292.0
user4     754462.0
user5    2841640.0
user6     638566.0
user7     653731.0
user8     709058.0
user9    1352663.0
Name: upload, dtype: float64
```

```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='upload' , data=internet_usage, ci=None, estimator=np.max)
ax.bar_label(ax.containers[0])
plt.title("Maximum upload per user")
plt.show()
plt.clf()
```



User 5 has the highest maximum upload with 2841640Kb with user 2 having the lowest of maximum upload with 379955Kb

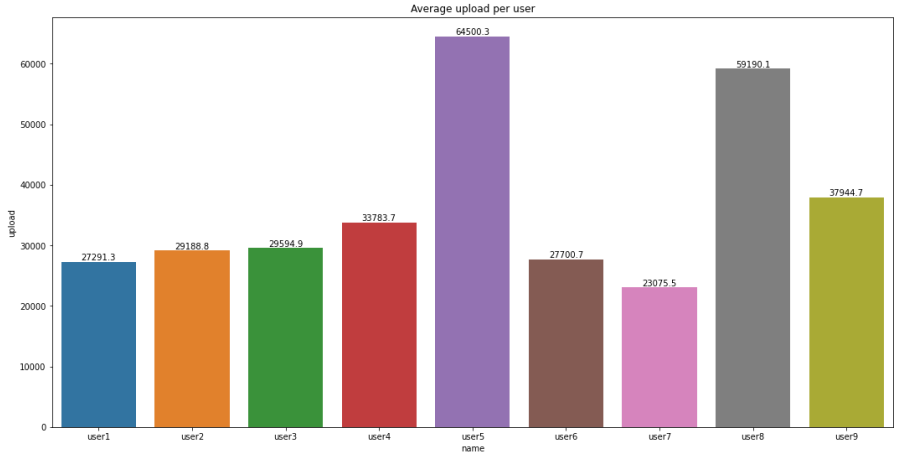
```
<Figure size 432x288 with 0 Axes>
```

We will check the average upload per user

```
print('The average upload per user:')
round(internet_usage.groupby('name').upload.mean(), 2)
```

```
The average upload per user:
name
user1    27291.34
user2    29188.79
user3    29594.88
user4    33783.74
user5    64500.35
user6    27700.73
user7    23075.54
user8    59190.12
user9    37944.66
Name: upload, dtype: float64
```

```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='upload' , data=internet_usage, ci=None, estimator=np.mean)
ax.bar_label(ax.containers[0])
plt.title("Average upload per user")
plt.show()
plt.clf()
```




```
<Figure size 432x288 with 0 Axes>
```

User5 has the highest average upload with 64500.35Kb while User 7 has the lower average with 23075.54Kb

Now we will do the same but with the download, so calculating minimum, maximum and average total, and after that per user

```
print('The minimum download is: ' + str(internet_usage.download.min()) + 'Kb')
print('The maximum download is: ' + str(internet_usage.download.max()) + 'Kb')
print('The average download is: ' + str(round(internet_usage.download.mean(), 2)) + 'Kb')
```

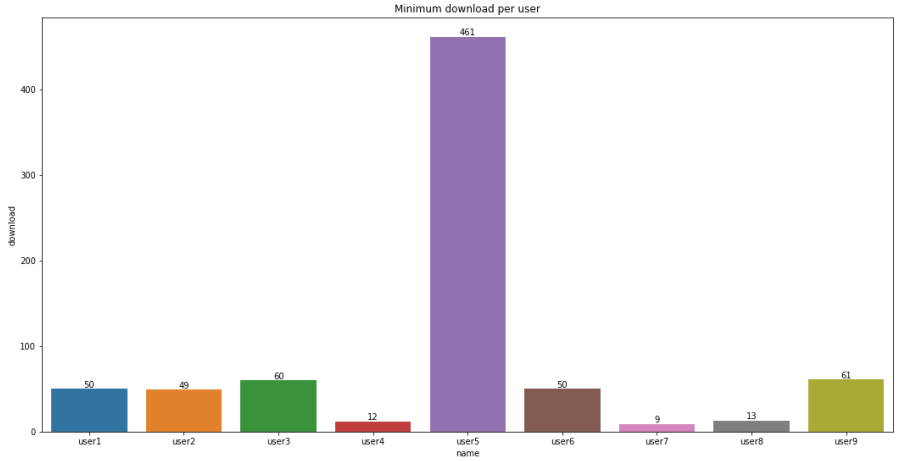
```
The minimum download is: 9.0Kb
The maximum download is: 27902607.0Kb
The average download is: 396664.52Kb
```

Now per the download per user

```
print('The minimum download per user:')
internet_usage.groupby('name').download.min()
```

```
The minimum download per user:
name
user1     50.0
user2     49.0
user3     60.0
user4     12.0
user5    461.0
user6     50.0
user7      9.0
user8     13.0
user9     61.0
Name: download, dtype: float64
```

```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='download' , data=internet_usage, ci=None, estimator=np.min)
ax.bar_label(ax.containers[0])
plt.title("Minimum download per user")
plt.show()
plt.clf()
```



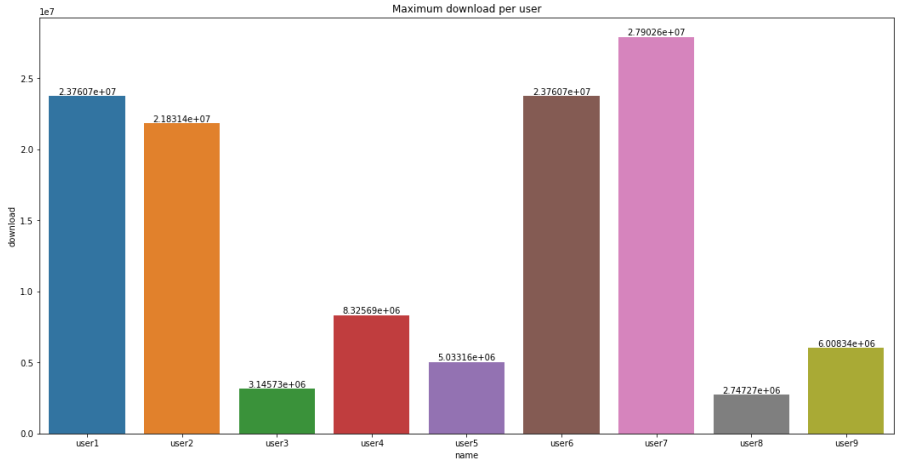

```
<Figure size 432x288 with 0 Axes>
```

User 5 has the highest minimum download with 461Kb while User 7 has the lowest with 9Kb

```
print('The maximum download per user:')
internet_usage.groupby('name').download.max()
```

```
The maximum download per user:
name
user1    23760732.0
user2    21831352.0
user3     3145728.0
user4     8325693.0
user5     5033164.0
user6    23760732.0
user7    27902607.0
user8     2747269.0
user9     6008340.0
Name: download, dtype: float64
```

```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='download' , data=internet_usage, ci=None, estimator=np.max)
ax.bar_label(ax.containers[0])
plt.title("Maximum download per user")
plt.show()
plt.clf()
```



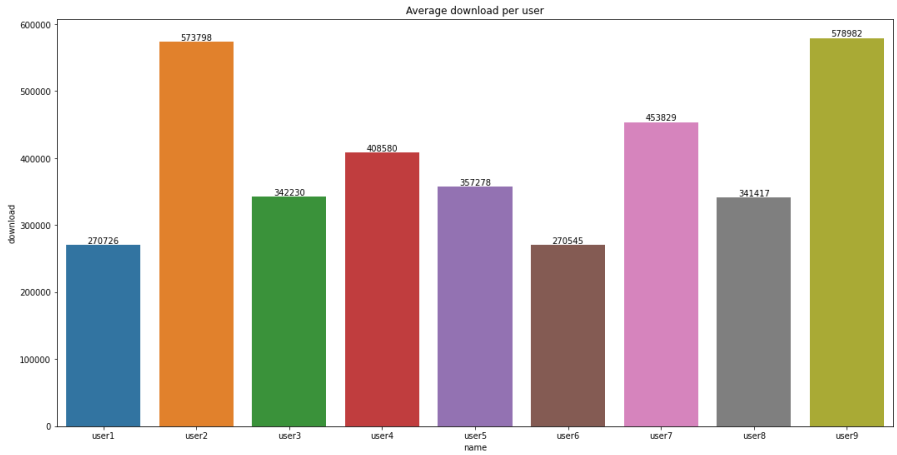

```
<Figure size 432x288 with 0 Axes>
```

User 7 has the highest maximum download with 27902607Kb while user 8 has the lowest with 2747269Kb

```
print('The average download per user:')
round(internet_usage.groupby('name').download.mean(), 2)
```

```
The average download per user:
name
user1    270725.96
user2    573798.02
user3    342230.37
user4    408580.26
user5    357278.08
user6    270545.18
user7    453828.61
user8    341417.12
user9    578981.51
Name: download, dtype: float64
```

```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='download' , data=internet_usage, ci=None, estimator=np.mean)
ax.bar_label(ax.containers[0])
plt.title("Average download per user")
plt.show()
plt.clf()
```




```
<Figure size 432x288 with 0 Axes>
```

User 9 has the highest average download with 578982.51Kb while user 6 has the lowest with 270545.18Kb

We will repeat all that with the total transfer column, minimum, maximum and average and than doing the same with each user

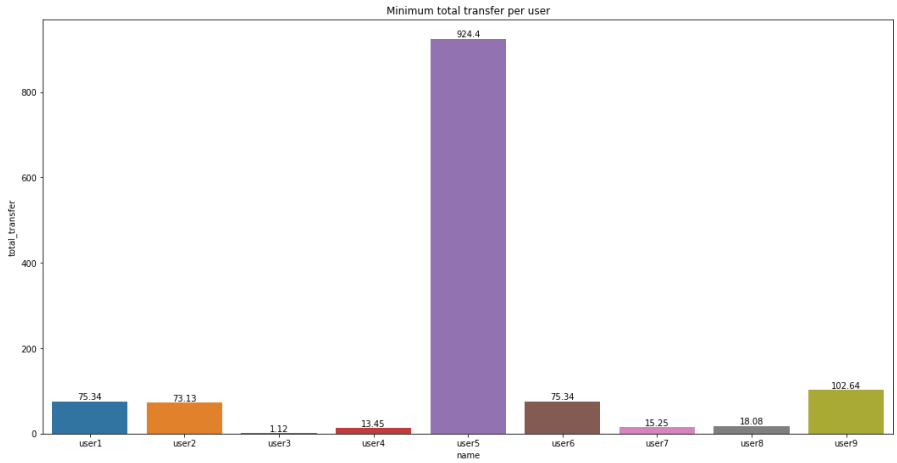
```
print('The minimum total transfer is: ' + str(internet_usage.total_transfer.min()) + 'Kb')
print('The maximum total transfer is: ' + str(internet_usage.total_transfer.max()) + 'Kb')
print('The average total transfer is: ' + str(round(internet_usage.total_transfer.mean(), 2)) + 'Kb')
```

```
The minimum total transfer is: 1.12Kb
The maximum total transfer is: 28552724.48Kb
The average total transfer is: 430437.21Kb
```

```
print('The minimum total transfer per user:')
internet_usage.groupby('name').total_transfer.min()
```

```
The minimum total transfer per user:
name
user1     75.34
user2     73.13
user3      1.12
user4     13.45
user5    924.40
user6     75.34
user7     15.25
user8     18.08
user9    102.64
Name: total_transfer, dtype: float64
```

```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='total_transfer' , data=internet_usage, ci=None, estimator=np.min)
ax.bar_label(ax.containers[0])
plt.title("Minimum total transfer per user")
plt.show()
plt.clf()
```




```
<Figure size 432x288 with 0 Axes>
```

User 5 has the highest minimum total transfer with 924.4Kb while user 3 has the lowest with 1.12Kb

```
print('The maximum total transfer per user:')
internet_usage.groupby('name').total_transfer.max()
```

```
The maximum total transfer per user:
name
user1    24389877.76
user2    22051553.28
user3     3282042.88
user4     8524922.88
user5     5158993.92
user6    24389877.76
user7    28552724.48
user8     3166699.52
user9     6155141.12
Name: total_transfer, dtype: float64
```

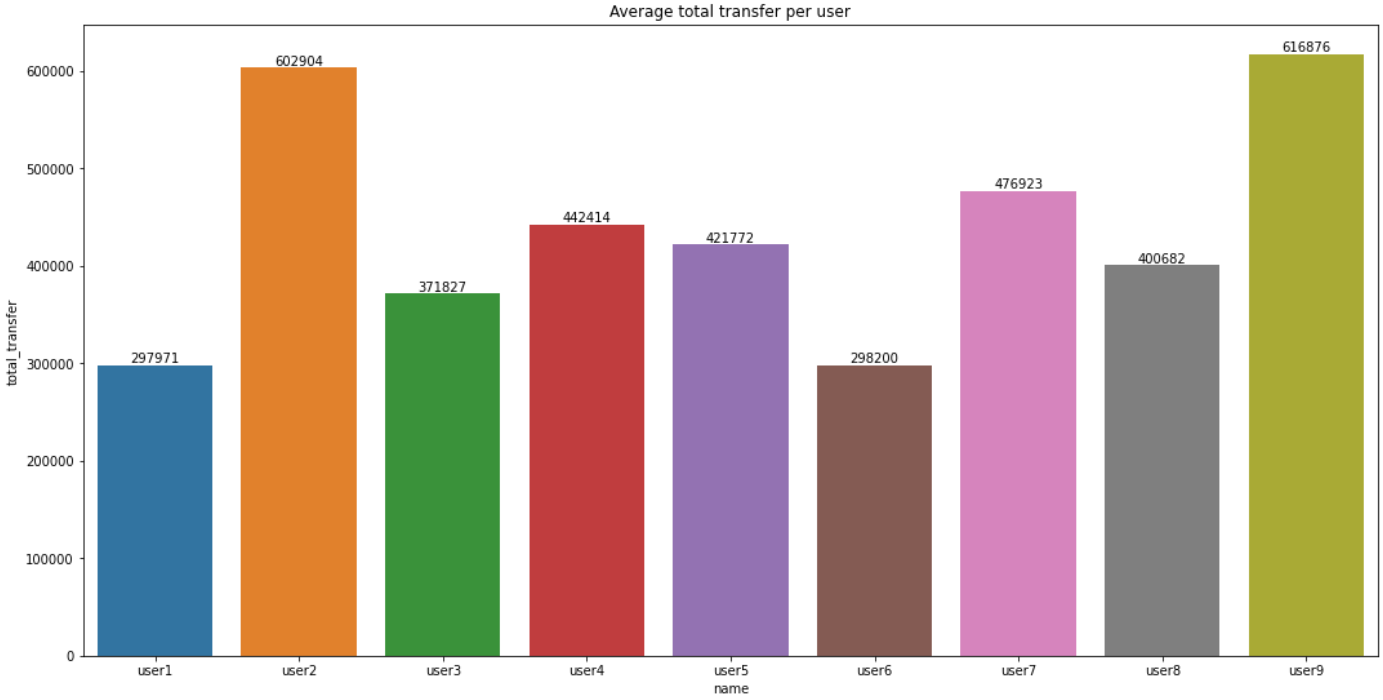
```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='total_transfer' , data=internet_usage, ci=None, estimator=np.max)
ax.bar_label(ax.containers[0])
plt.title("Maximum total transfer per user")
plt.show()
plt.clf()
```

User 7 has the highest maximum total transfer with 28552724.48Kb while user 8 has the lowest with 3166699.52Kb

```
print('The average total transfer per user:')
round(internet_usage.groupby('name').total_transfer.mean(), 2)
```

```
The average total transfer per user:
name
user1    297971.21
user2    602904.19
user3    371826.53
user4    442413.51
user5    421772.04
user6    298199.88
user7    476923.04
user8    400682.28
user9    616875.57
Name: total_transfer, dtype: float64
```

```
plt.figure(figsize=(18, 9))
ax = sns.barplot(x='name', y='total_transfer' , data=internet_usage, ci=None, estimator=np.mean)
ax.bar_label(ax.containers[0])
plt.title("Average total transfer per user")
plt.show()
plt.clf()
```



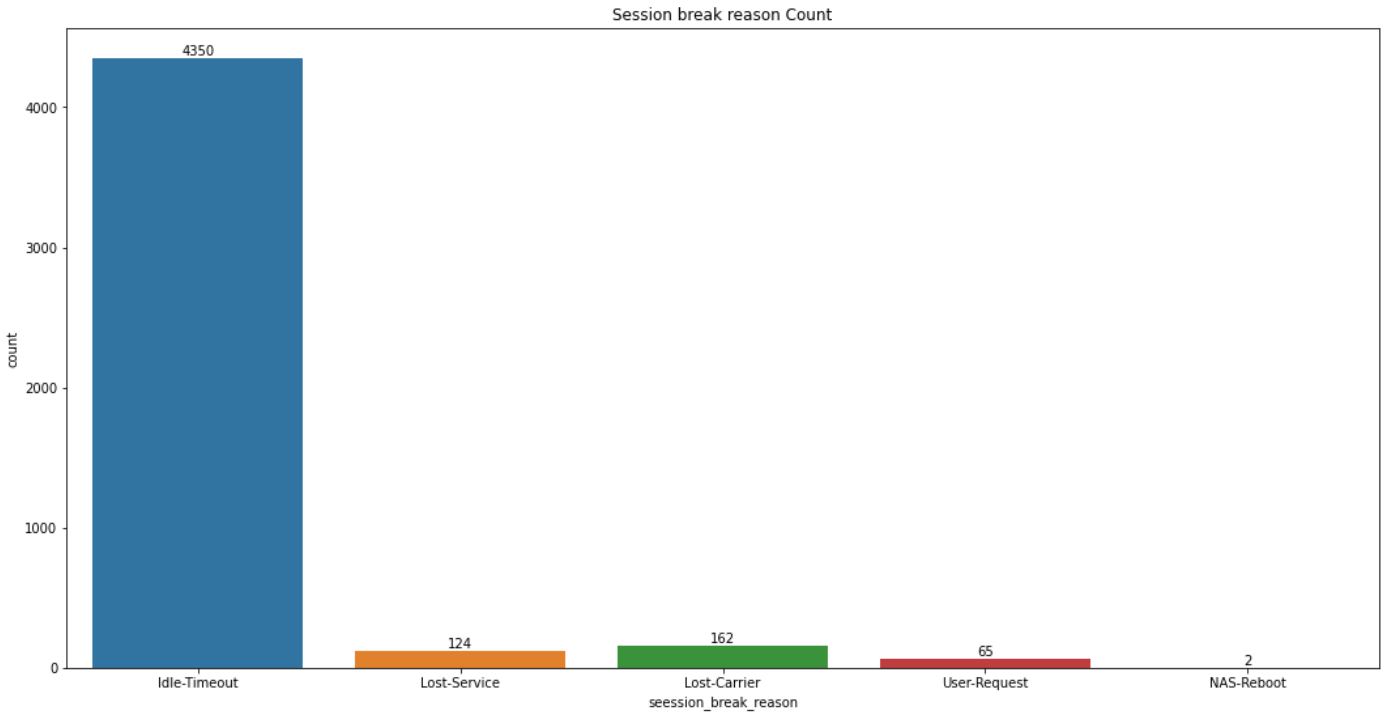

```
<Figure size 432x288 with 0 Axes>
```

User 9 has the highest average total transfer with 616875.57Kb while user 1 has the lowest with 297971.21Kb

```
internet_usage.seession_break_reason.value_counts()
```

```
Idle-Timeout    4350
Lost-Carrier     162
Lost-Service     124
User-Request      65
NAS-Reboot         2
Name: seession_break_reason, dtype: int64
```

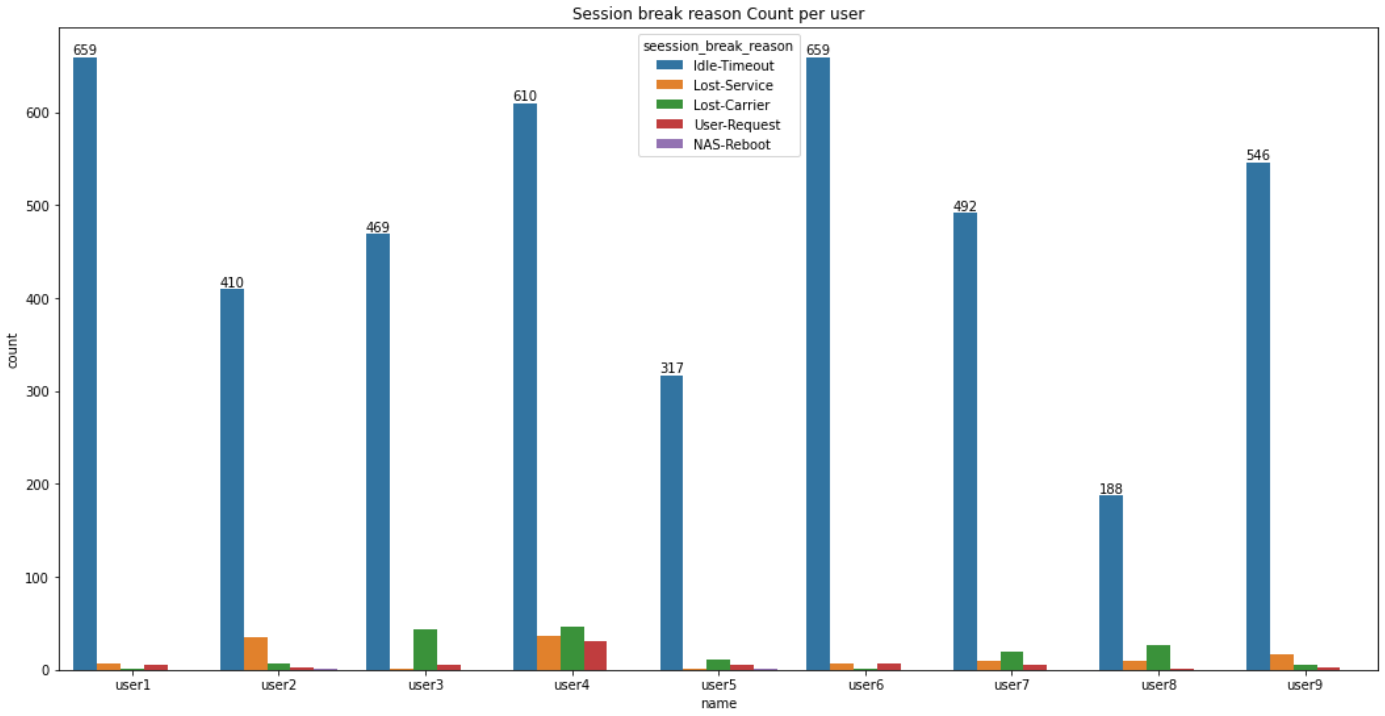
```
plt.figure(figsize=(18, 9))
ax = sns.countplot(x='seession_break_reason' , data=internet_usage)
ax.bar_label(ax.containers[0])
plt.title("Session break reason Count")
plt.show()
plt.clf()
```




```
<Figure size 432x288 with 0 Axes>
```

The majority of the session break reasons were from "Idle-Timeout" with 4350 times, while the other reasons have very low occurrences in comparison, with "NAS-Reboot" having the lowest with only 2 occurrences

```
plt.figure(figsize=(18, 9))
ax = sns.countplot(x='name', hue = 'seession_break_reason' , data=internet_usage)
ax.bar_label(ax.containers[0])
plt.title("Session break reason Count per user")
plt.show()
plt.clf()
```




```
<Figure size 432x288 with 0 Axes>
```

If we check the session break reasons count per user, it's the same thing, the majority are from "Idle-Timeout" while the other reasons have very low occurrences

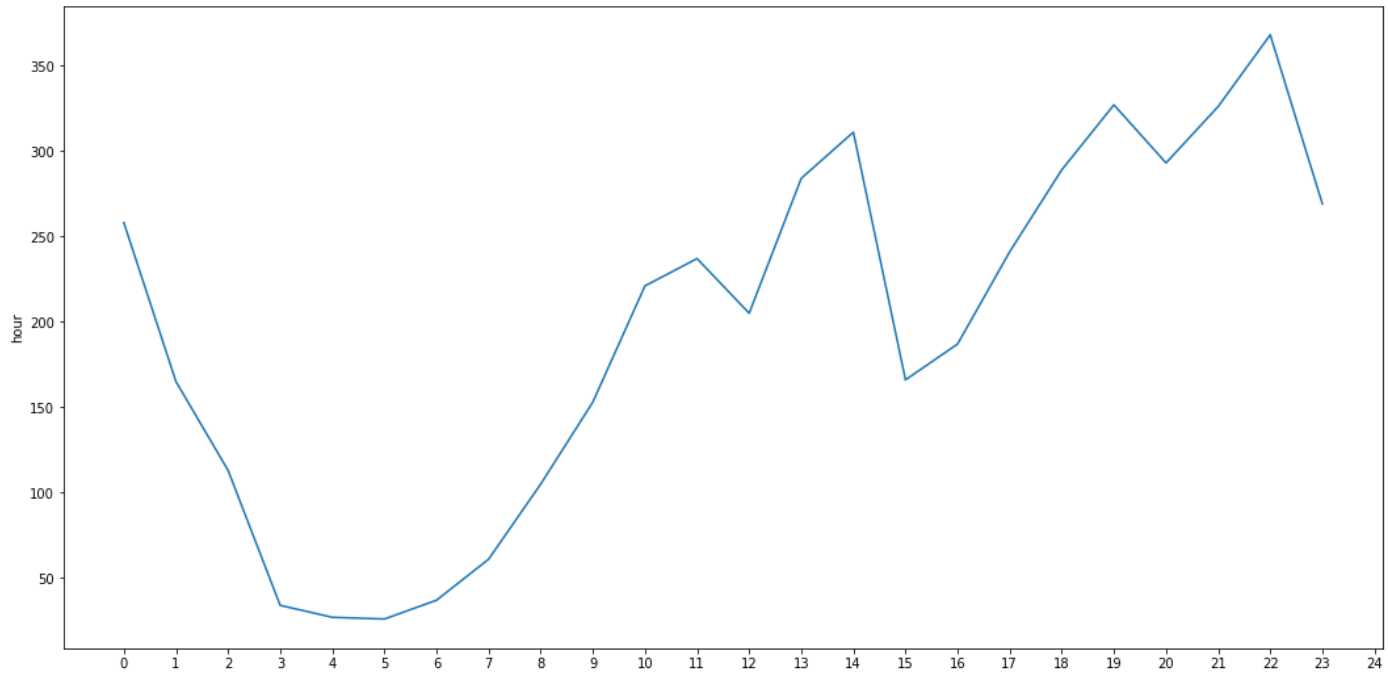
3 - Deeper Analysis

Now that we finished with the EDA, we can go deeper into our analysis and answer the questions asked earlier

We will start with this question:

- What is the most frequent internet activity time of the day ?

```
internet_usage['hour'] = pd.to_datetime(internet_usage['start_time']).dt.hour
frequent_activity_time_of_day = internet_usage['hour'].value_counts().sort_index()
plt.figure(figsize=(18, 9))
sns.lineplot(data=frequent_activity_time_of_day)
plt.xticks(np.linspace(start=0, stop=24, num=25))
plt.show()
plt.clf()
```




```
<Figure size 432x288 with 0 Axes>
```

The most frequent internet activity time of the day is 22h or 10pm

Now we answer this question:

- How often the ip changes ?

```
base_ip = '48:E7:DA:58:22:E9'
ip_count = 0
for i in range(1, internet_usage.shape[0]):
    if internet_usage.iloc[i]['ip'] != base_ip:
        ip_count +=1
        base_ip = internet_usage.iloc[i]['ip']

print('The IP Adress changed ' + str(ip_count) + ' times')
```

```
The IP Adress changed 2303 times
```

Now we answer this question :

- How often the device changed.

```
base_device = 'device1'
device_count = 0
```

```
for i in range(1, internet_usage.shape[0]):
    if internet_usage.iloc[i]['device'] != base_device:
        device_count +=1
        base_device = internet_usage.iloc[i]['device']

print('The device changed ' + str(device_count) + ' times')
```

```
The device changed 1223 times
```

Now we answer the final question:

- What is the average usage per hour , per day and per month ?

We start with the average usage per hour

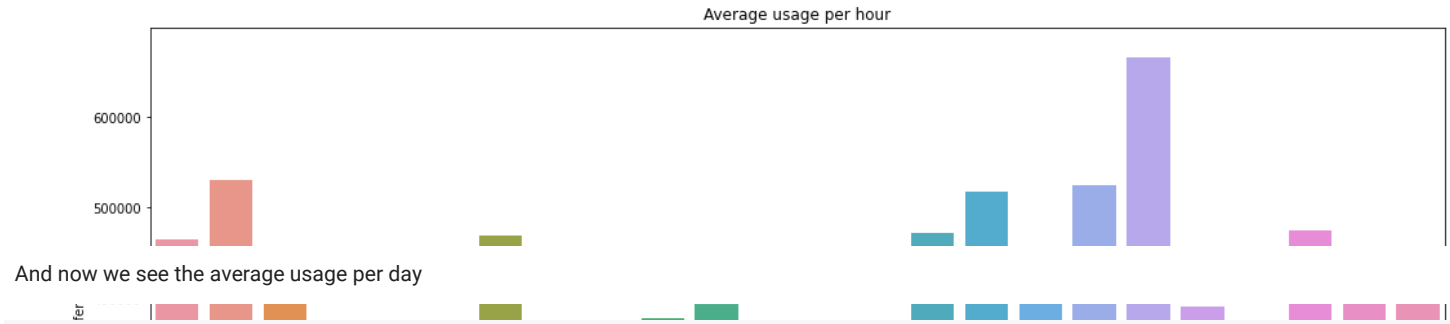
```
internet_usage.reset_index(inplace=True)

internet_usage['day'] = internet_usage['start_time'].dt.day
internet_usage['month'] = internet_usage['start_time'].dt.month

hourly_average = internet_usage.groupby('hour').total_transfer.mean()
print('The Average usage per hour is:\n ' +  str(round(hourly_average, 2)))
```

```
The Average usage per hour is:
 hour
0     464530.44
1     530880.86
2     431576.11
3     345303.34
4     359809.44
5     275960.91
6     468959.59
7     292886.83
8     366681.92
9     377480.64
10    393259.12
11    309492.45
12    310137.98
13    335270.58
14    472403.71
15    517005.11
16    403919.40
17    525423.69
18    666590.76
19    389841.79
20    355862.80
21    474038.34
22    449600.50
23    407785.08
Name: total_transfer, dtype: float64
```

```
plt.figure(figsize=(18, 9))
sns.barplot(x='hour', y='total_transfer' , data=internet_usage, ci=None, estimator=np.mean)
plt.title("Average usage per hour")
plt.show()
plt.clf()
```

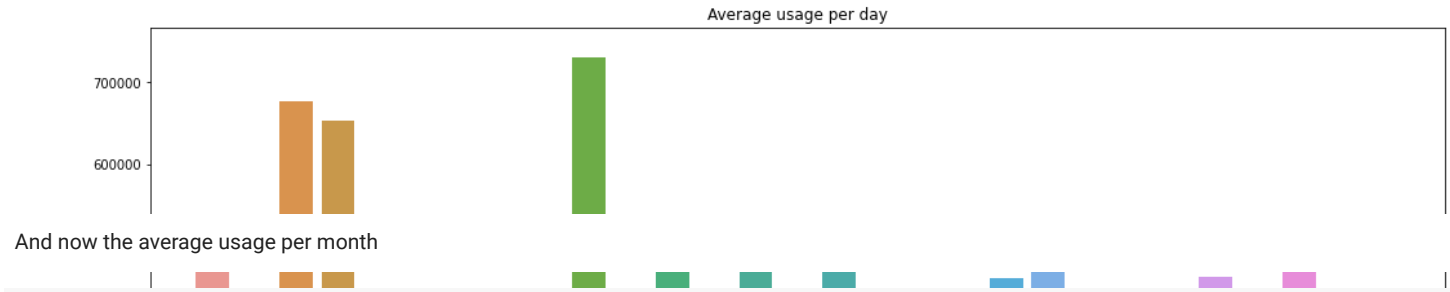


And now we see the average usage per day

```
daily_average = internet_usage.groupby('day').total_transfer.mean()
print('The Average usage per day is:\n ' +  str(round(daily_average, 2)))
```

```
The Average usage per day is:
 day
1     396705.04
2     494496.48
3     445865.63
4     676332.03
5     652195.66
6     396261.75
7     402259.89
8     301859.57
9     393521.97
10    350665.02
11    729857.65
12    346695.95
13    501906.70
14    352701.10
15    521520.51
16    426719.39
17    475795.71
18    337490.93
19    301941.32
20    365130.12
21    462211.69
22    486595.37
23    383153.93
24    320598.94
25    443689.47
26    463432.02
27    324318.12
28    494576.34
29    363645.61
30    361418.88
31    369118.01
Name: total_transfer, dtype: float64
```

```
plt.figure(figsize=(18, 9))
sns.barplot(x='day', y='total_transfer' , data=internet_usage, ci=None, estimator=np.mean)
plt.title("Average usage per day")
plt.show()
plt.clf()
```

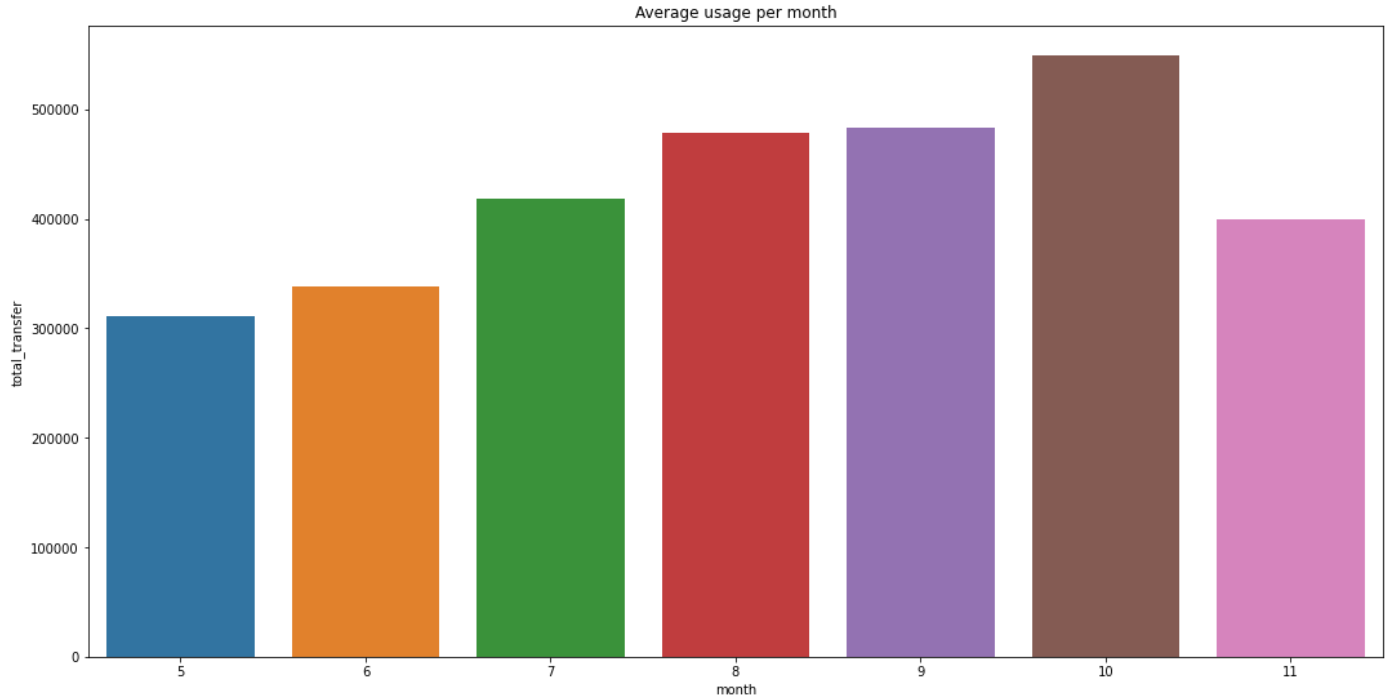


And now the average usage per month

```
monthly_average = internet_usage.groupby('month').total_transfer.mean()
print('The Average usage per month is:\n ' +  str(round(monthly_average, 2)))
```

```
The Average usage per month is:
 month
5     311177.16
6     338418.08
7     418583.99
8     479042.44
9     482955.52
10    549467.63
11    399804.11
Name: total_transfer, dtype: float64
```

```
plt.figure(figsize=(18, 9))
sns.barplot(x='month', y='total_transfer' , data=internet_usage, ci=None, estimator=np.mean)
plt.title("Average usage per month")
plt.show()
plt.clf()
```




```
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```

3 - Conclusion

In this project we had a dataset about the internet usage [in kb] by graduate students at an indian university. We imported the data, cleaned it, analyzed it and answered the questions asked

The dataset contains 9 users that used 1224 difference devices to connect to the internet while uploading 2841640.0Kb and downloading 27902607.0Kb with a total transfer of 28552724.48Kb during a period of 7 months

The most frequent internet activity time of the day is 22h or 10pm

The IP Adress changed 2303 times while the devices used changed 1223 times

The highest average usage per hour was 666590.76Kb around18h or 6pm, the highest average usage per day was 729857.65Kb around the 11th day of the month, while the highest average usage per month was during the month of October with 549467.63Kb total transfer of data